

# Phoenix Inverters

180VA – 1200VA 230V/50Hz and 110V/60Hz

[www.victronenergy.com](http://www.victronenergy.com)



Phoenix Inverter  
12/180

## SinusMax – Superior engineering

Developed for professional duty, the Phoenix range of inverters is suitable for the widest range of applications. The design criteria have been to produce a true sine wave inverter with optimized efficiency but without compromise in performance. Employing hybrid HF technology, the result is a top quality product with compact dimensions, light in weight and capable of supplying power, problem-free, to any load.

## Extra start-up power

A unique feature of the SinusMax technology is very high start-up power. Conventional high frequency technology does not offer such extreme performance. Phoenix Inverters, however, are well suited to power up difficult loads such as computers and low power electric tools.

## To transfer the load to another AC source: the automatic transfer switch

For our lower power models we recommend the use of our Filax Automatic Transfer Switch. The Filax features a very short switchover time (less than 20 milliseconds) so that computers and other electronic equipment will continue to operate without disruption.

## LED diagnosis

Please see manual for a description.

## Remote on/off switch

Connector for remote on/off switch available on all models.

## DIP switch for 50/60Hz selection (48/350 model only)

## Available with different output sockets

Please see pictures below.



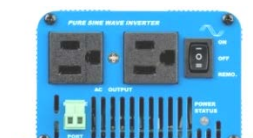
Phoenix Inverter  
12/800 with Schuko socket



Phoenix Inverter 12/350  
with IEC-320 sockets



Phoenix Inverter 12/180  
with Schuko socket



Phoenix Inverter 12/180  
with Nema 5-15R sockets



Phoenix Inverter 12/800  
with IEC-320 socket



Phoenix Inverter 12/800  
with Schuko socket



Phoenix Inverter 12/800  
with BS 1363 socket



Phoenix Inverter 12/800  
with AN/NZS 3112 socket



Phoenix Inverter 12/800  
with Nema 5-15R socket

| Phoenix Inverter                                                                                                                                                                                                    | 12 Volt<br>24 Volt<br>48 Volt                                                                     | 12/180<br>24/180          | 12/350<br>24/350<br>48/350 | 12/800<br>24/800<br>48/800             | 12/1200<br>24/1200<br>48/1200       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------|----------------------------|----------------------------------------|-------------------------------------|
| Cont. AC power at 25°C (VA) (3)                                                                                                                                                                                     |                                                                                                   | 180                       | 350                        | 800                                    | 1200                                |
| Cont. power at 25°C / 40°C (W)                                                                                                                                                                                      |                                                                                                   | 175 / 150                 | 300 / 250                  | 700 / 650                              | 1000 / 900                          |
| Peak power (W)                                                                                                                                                                                                      |                                                                                                   | 350                       | 700                        | 1600                                   | 2400                                |
| Output AC voltage / frequency (4)                                                                                                                                                                                   | 110 VAC or 230 VAC +/- 3% 50 Hz or 60 Hz +/- 0,1%                                                 |                           |                            |                                        |                                     |
| Input voltage range (V DC)                                                                                                                                                                                          | 10,5 - 15,5 / 21,0 - 31,0 / 42,0 - 62,0                                                           |                           |                            | 9,2 - 17,3 / 18,4 - 34,0 / 36,8 - 68,0 |                                     |
| Low battery alarm (V DC)                                                                                                                                                                                            | 11,0 / 22 / 44                                                                                    |                           |                            | 10,9 / 21,8 / 43,6                     |                                     |
| Low battery shut down (V DC)                                                                                                                                                                                        | 10,5 / 21 / 42                                                                                    |                           |                            | 9,2 / 18,4 / 36,8                      |                                     |
| Low battery auto recovery (V DC)                                                                                                                                                                                    | 12,5 / 25 / 50                                                                                    |                           |                            | 12,5 / 25 / 50                         |                                     |
| Max. efficiency (%)                                                                                                                                                                                                 | 87 / 88                                                                                           | 89 / 89/ 90               |                            | 91 / 93 / 94                           | 92 / 94 / 94                        |
| Zero load power (W)                                                                                                                                                                                                 | 2,6 / 3,8                                                                                         | 3,1 / 5,0 / 6,0           |                            | 6 / 5 / 4                              | 6 / 5 / 6                           |
| Zero load power in search mode                                                                                                                                                                                      | n. a.                                                                                             | n. a.                     |                            | 2                                      | 2                                   |
| Protection (2)                                                                                                                                                                                                      | a - e                                                                                             |                           |                            |                                        |                                     |
| Operating temperature range                                                                                                                                                                                         | -40 to +50°C (fan assisted cooling)                                                               |                           |                            |                                        |                                     |
| Humidity (non-condensing)                                                                                                                                                                                           | max 95%                                                                                           |                           |                            |                                        |                                     |
| ENCLOSURE                                                                                                                                                                                                           |                                                                                                   |                           |                            |                                        |                                     |
| Material & Colour                                                                                                                                                                                                   | aluminium (blue Ral 5012)                                                                         |                           |                            |                                        |                                     |
| Battery-connection                                                                                                                                                                                                  | 1)                                                                                                | 1)                        |                            | 1)                                     | 1)                                  |
| Standard AC outlets                                                                                                                                                                                                 | 230V: IEC-320 (IEC-320 plug included), CEE 7/4 (Schuko)<br>120V: Nema 5-15R                       |                           |                            |                                        |                                     |
| Other outlets (at request)                                                                                                                                                                                          | BS 1363 (United Kingdom)<br>AN/NZS 3112 (Australia, New Zealand)                                  |                           |                            |                                        |                                     |
| Protection category                                                                                                                                                                                                 | IP 20                                                                                             |                           |                            |                                        |                                     |
| Weight (kg / lbs)                                                                                                                                                                                                   | 2,7 / 5,4                                                                                         | 3,5 / 7,7                 |                            | 6,5 / 14.3                             | 8,5 / 18.7                          |
| Dimensions (h x w x d in mm)<br>(h x w x d in inches)                                                                                                                                                               | 72x132x200<br>2.8x5.2x7.9                                                                         | 72x155x237<br>2.8x6.1x9.3 |                            | 104 x 194 x 305<br>4.1 x 7.6 x 12.0    | 104 x 194 x 305<br>4.1 x 7.6 x 12.0 |
| ACCESSORIES                                                                                                                                                                                                         |                                                                                                   |                           |                            |                                        |                                     |
| Remote on-off switch                                                                                                                                                                                                | Two pole connector                                                                                |                           |                            |                                        |                                     |
| Automatic transfer switch                                                                                                                                                                                           | Filax                                                                                             |                           |                            |                                        |                                     |
| STANDARDS                                                                                                                                                                                                           |                                                                                                   |                           |                            |                                        |                                     |
| Safety                                                                                                                                                                                                              | EN 60335-1                                                                                        |                           |                            |                                        |                                     |
| Emission Immunity                                                                                                                                                                                                   | EN 55014-1 / EN 55014-2/ EN 61000-6-2 / EN 61000-6-3                                              |                           |                            |                                        |                                     |
| 1) Battery cables of 1.5 meter (12/180 with cigarette plug)<br>2) Protection key:<br>a) output short circuit<br>b) overload<br>c) battery voltage too high<br>d) battery voltage too low<br>e) temperature too high | 3) Non-linear load, crest factor 3:1<br>4) Frequency can be set by DIP switch (48/350 model only) |                           |                            |                                        |                                     |



#### Battery Alarm

An excessively high or low battery voltage is indicated by an audible and visual alarm, and a relay for remote signalling.



#### BMV-700 Battery Monitor

The BMV-700 Battery Monitor features an advanced microprocessor control system combined with high resolution measuring systems for battery voltage and charge/discharge current. Besides this, the software includes complex calculation algorithms to exactly determine the state of charge of the battery. The BMV-700 selectively displays battery voltage, current, consumed Ah or time to go. The monitor also stores a host of data regarding performance and use of the battery.